SWIS # 45 AA-0020

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 87-196

WASTE DISCHARGE REQUIREMENTS
FOR
ANDERSON SOLID WASTE, INC.
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
SHASTA COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. Anderson Solid Waste, Inc., (hereafter Discharger) submitted a Report of Waste Discharge dated 21 August 1987. Included with the application was a site evaluation report, waste characterization report, facility design report, operation plan, and a monitoring well installation and geologic report.

2. The Report of Waste Discharge requests revised waste discharge requirements for reclassification of the existing limited II-1 landfill to a Class III landfill and requirements for a Class II surface impoundment. The waste management units are currently regulated by Waste Discharge Requirements Order No. 80-076 which are no longer in conformance with Title 23, California Administrative Code (CAC), Chapter 3, Subchapter 15 (hereafter Subchapter 15). Group 1 wastes (old classification) received at the site were limited to small quantities of soil or cleanup materials contaminated with petroleum products. These wastes would have been considered as 'designated wastes' under the new Subchapter 15 requirements. Petroleum contaminated wastes are no longer accepted by the Discharger.

3. The 150 acre disposal site, comprising Shasta County assessor parcel numbers 207-17-09, 11, 12, and 13 is owned and operated by Anderson Solid Waste, Inc. Waste disposal activities are currently confined to approximately 35 acres of the site. The landfill is three miles southwest of the City of Anderson in Section 31, T30N, R4W, MDB&M, as shown in Attachment 'A' which is incorporated herein and made part of this Order.

4. The Discharger proposes to continue to discharge wood waste, yard trimmings, commercial and household refuse, and demolition wastes in Class III Waste Management Unit (WMU) No. 1 as shown in Attachment 'B' which is incorporated herein and made part of this Order. These wastes have been classified as 'nonhazardous solid waste' or 'inert waste' using the criteria set forth in Subchapter 15.

5 The Discharger proposes to discharge wastes containing greater than one percent (>1%) friable asbestos in Class III WMU No. 2 as shown on Attachment 'B'. These wastes are classified as 'hazardous' under Title 22 of CAC. However, because these wastes do not pose a threat to ground water quality, Section 25143.7 of the Health and Safety Code permits their

disposal in any landfill which has waste discharge requirements that specifically permit the discharge, provided that the wastes are handled and disposed of in accordance with federal statutes and regulations.

6. The Discharger also proposes to discharge ash from wood fired cogeneration facilities and incinerators to WMU No. 2. These wastes, if commingled with putrescible organic matter that produces acidic leachate, could release pollutants in concentrations which could cause degradation of waters of the State. However, in the absence of acidic conditions, these wastes do not pose a water quality threat. In addition, these wastes themselves are not capable of generating acidic leachate, and these waste discharge requirements prohibit the disposal of acid generating wastes in WMU No. 2.

7 The Discharger also proposes to discharge solidified waste generated as a by-product of titanium dioxide (TiO_2) manufacturing to WMU No. 2. The State Department of Health Services (DHS) has determined that the treated waste is non-hazardous pursuant to the CAC, Title 22, Division 4, and may be disposed of at a Class II or III landfill subject to approval by the Regional Board. The waste has a high pH and is not capable of generating acid leachate.

8. The Discharger also requests approval to allow disposal of shredder wastes at the landfill. The Department of Health Services has granted shredder waste a variance, for the purposes of disposal, from hazardous waste management requirements pursuant to CAC, Title 22, Section 66310. Shredder waste is any waste which results from the shredding of automobile bodies, household appliances, and sheet metal.

9. 'Hazardous waste' which has received a variance from DHS for the purposes of disposal is classified as a 'designated waste' pursuant to Section 2522 of Subchapter 15.

10. 'Designated waste' may be disposed of in a Class III waste management unit provided that the Discharger establishes, to the satisfaction of the Board, that the waste presents a lower risk of degrading water quality than is indicated by its classification.

11. The State Water Resources Control Board adopted Resolution 87-22 on 19 March 1987. This resolution allows the discharge of shredder wastes to Class III landfills where waste discharge requirements allow such disposal.

12. The Discharger proposes to discharge leachate from the landfill to two existing leachate impoundments as shown on Attachment 'B'. These wastes have been classified as 'designated wastes' using the criteria set forth in Subchapter 15. The Discharger is currently retrofitting the existing leachate ponds prior to winter operations. The Discharger is proposing to replace the existing leachate ponds with a new Class II surface impoundment and leachate collection and removal system prior to the 1988 winter season.

13. Contained within the Class III landfill is a closed 'designated waste' area containing small quantities of soil and cleanup materials contaminated with petroleum products. The area consists of a single trench on the ridge top as shown in Attachment 'B'.

14. The main canyon area comprising 35 acres has a calculated volumetric capacity of approximately 2.5 million cubic yards. The remaining useful life of this portion of the disposal site has been calculated to range between 6-10 years depending on site use.

15. Land within 1000 feet of the landfill is open space on the east, south, and west. The Shasta County Regional Septage Disposal Ponds are adjacent to the landfill on the north side.

16. The site is approximately 720 feet elevation mean sea level (MSL) along the ridge tops with canyon bottom elevations ranging from 580 to 600 feet MSL. The landfill is underlain by a well-consolidated deposit consisting of dense to very dense clayey sand and clayey gravel of the Red Bluff Formation which overlies the water bearing Tehama Formation of similar composition. Permeability values for the clay bound soils ranges from 10^{-5} to 10^{-7} cm/sec indicating relatively impermeable strata.

17. One upgradient and two downgradient deep monitoring wells were installed in August 1987 penetrating the uppermost few feet of the regional aquifer in the Tehama Formation. Preliminary water level data from these wells indicates that the Regional ground water surface is between elevation 442 and 456 feet MSL, approximately 130 feet below the canyon bottom. The hydraulic gradient is estimated to be towards the southeast at 0.008 ft/ft.

18. A shallow monitoring well was installed in 1980 in the canyon bottom below the landfill to monitor surface runoff through the unconsolidated stream deposits. This well contains water during the winter season and has been monitored since 1980 as specified in the existing Monitoring Reporting Program No. 80-076. No migration of leachate has been detected.

19. Three additional test boring/detection wells were installed by the Discharger to determine soil conditions and to intercept any perched water in the Red Bluff Formation. These detection wells are not considered points of compliance since they are only 40 feet deep and do not penetrate to permeable zones.

20. The beneficial uses of ground water are domestic, municipal, agricultural, and industrial supply.

21. The site receives an average of 30 inches of precipitation with over 90 percent occurring between October through May. The average annual evaporation is approximately 70 inches. Based on these data, annual net evaporation at the site is 40 inches.

22. The 100-year, 24-hour precipitation event for the site is 4.8 inches and a 1000-year, 24-hour precipitation event is 6.06 as calculated design storm precipitation data provided by California Department of Water Resources, Rainfall Depth-Duration-Frequency for California.

23. The site is not within a 100-year flood plain.

24. Surface drainage is to an unnamed drainage tributary to Cottonwood Creek, a tributary to the Sacramento River.

25. The Discharger is proposing to construct a 20-acre foot sedimentation basin below the landfill to settle stormwater runoff from exposed surfaces and the perimeter ditch system prior to discharge to the tributary drainage.

26. The beneficial uses of Cottonwood Creek include domestic supply, agricultural supply, recreation, and the preservation and enhancement of fish, wildlife, and other aquatic resources.

27. The Board, on 25 July 1975, adopted a Water Quality Control Plan for the Sacramento River Basin (5A) which contains water quality objectives for all waters of the Basin. This Order implements the water quality objectives stated in that Plan. Furthermore, the Order implements the prescriptive standards and performance goals of Subchapter 15.

28. The Discharger has prepared an Environmental Impact Report in accordance with the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), which has been adopted by Shasta County.

29. The Board has reviewed the Environmental Impact Report, and these waste discharge requirements will mitigate or avoid the significant impacts on water quality.

30. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

31. The Board in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 80-076 be rescinded and Anderson Solid Waste, Inc., in order to meet the provisions of Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. **Prohibitions:**

1. The discharge of 'hazardous waste' at this site, except for waste that is hazardous due only to its friable asbestos content, is prohibited.

2. The discharge of 'designated waste' at this site, except as noted in Discharge Specification 5 and 6 and other designated waste which is shown to have a lower risk of degrading water quality than indicated by its classification, is prohibited.

3. The disposal of wastes, other than leachate from the landfill units, to the Class II surface impoundment, is prohibited.

4. The discharge of liquid or semi-solid wastes containing less than 50 percent solids to the landfill units is prohibited.

5. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses or to ground water is prohibited.

6. The discharge of waste to ponded water from any source is prohibited.

B. **Discharge Specifications:**

1. The treatment or disposal of waste shall not cause pollution or a nuisance as defined in the California Water Code, Section 13050.

2. Wood waste, commercial and household refuse, and other putrescbile organic matter shall be discharged only to WMU No. 1.

3. Wood ash, solidified waste from TiO_2 manufacturing, and asbestos shall be discharged to WMU No. 2 designed and operated to isolate this waste from organic wastes which could produce acidic leachate. Disposal of asbestos shall be in accordance with Section 25143.7 of the California

Health and Safety Code. Wood ash and TiO_2 solidified waste may be utilized as daily cover over asbestos wastes and as a foundation layer for final cover over WMUs 1 and 2.

4. WMUs 1 and 2 shall be separated by at least five (5) feet of native materials or compacted embankments.

5. The discharge of liquid and semi-solid waste to the Class II surface impoundment shall be limited to leachate from the landfill units and surface impoundment leachate collection and removal system.

6. Shredder waste which is classified as a 'designated waste' must be disposed of in an area where it will not contact other waste or be over lain by waste other than auto shredder waste.

7. Shredder waste which is determined to be a 'nonhazardous solid waste' may be disposed of without special regulation or management.

8. Wastes shall not be discharged below 600 feet MSL.

9. The Discharger shall remove and relocate any wastes discharged at this site in violation of this Order.

10. The disposal area shall be protected from any washout or erosion of wastes or covering material, and from inundation, which could occur as a result of floods with a frequency of one in 100 years.

11. Precipitation and drainage control systems shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 100-year, 24-hour precipitation conditions, as described in Finding No. 22 above.

12. The exterior surface of the disposal area shall be graded to promote lateral runoff of precipitation and to prevent ponding.

13. Annually, prior to the anticipated rainy season, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the site.

14. During the rainy season, when precipitation can be expected, a minimum one-foot thickness of low permeability ($1x10^{-6}$cm/s hydraulic conductivity or less) cover shall be maintained over all but the active disposal area of the landfill units. The active disposal area shall be confined to the smallest area practicable based on the anticipated quantity of waste and operational procedures.

15. Surface drainage from tributary areas, and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes discharged at the site. The discharge to the settling basin shall be limited to stormwater runoff from the diversion channels perimeter ditches, and exposed soil areas.

16. The landfill units shall have a one-foot clay liner or sufficient depth of native geologic material with a hydraulic conductivity of $1x10^{-6}$cm/s meeting the criteria in Section 2533(b) of Subchapter 15. The dentritic LCRS shall be designed, constructed and operated to prevent the buildup of hydraulic head on the underlying liner or natural geologic materials of low hydraulic conductivity.

17. The proposed leachate surface impoundment shall be lined with a double or single clay liner with a permeability of $1x10^{-6}$cm/s or less and a minimum relative compaction of 90%. If a single liner is used the surface impoundment shall be removed and replaced before the last 25 percent (minimum one-foot thickness) of the liner is penetrated by fluid it contains. Appropriate monitoring equipment shall be installed in the liner to determine when the fluid has reached this degree of penetration. If a double liner is used, a synthetic liner of a minimum 40-mils thickness may be substituted for the inner clay liner.

18. Hydraulic conductivity shall be determined by laboratory tests using solutions of similar properties as the fluids that will be contained. Laboratory permeabilities shall be confirmed by field testing of the finished liner. Construction methods and quality assurance procedures shall be sufficient to ensure that all parts of the liner meet the hydraulic conductivity and compaction requirements.

19. Surface impoundments shall be designed, constructed, and operated to ensure a two-foot freeboard at all times. In addition to this two-foot freeboard, the surface impoundments shall be designed to contain the rainfall from a 1000-year, 24-hour precipitation event as described in Finding No. 22 above.

20. The surface impoundments shall be designed, constructed and maintained to prevent scouring and/or erosion of liners and other containment features at points of discharge to the impoundments and by wave action at the waterline.

21. All containment structures, leachate collection systems, erosion and drainage control systems shall be designed and constructed under the direct supervision of a California registered civil engineer or a

certified engineering geologist and shall be certified by the individual as meeting the prescriptive standards and performance goals of Subchapter 15.

22. Solids which accumulate in the surface impoundments shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for landfill leachate. Prior to removal of these solids, sufficient samples shall be taken to determine their characterization and waste classification. Disposal of solids shall be in a manner that is consistent with Subchapter 15 and shall be approved by the Executive Officer.

23. After removal of the free liquid or treatment to eliminate free liquid, closure of the surface impoundment may proceed by either of the following methods upon approval by the Regional Board.

    a. All residual sludges, solids, and liner materials contaminated by wastes shall be completely removed and discharged to a waste management unit approved by the Board.

    b. If residual wastes are classified as nonhazardous pursuant to Title 22, CAC, Division 4, Chapter 30, or if the Discharger demonstrates that removal of all remaining contaminants is infeasible, the surface impoundments may be closed as a landfill pursuant to Subchapter 15 requirements, providing the moisture content of the residual wastes does not exceed the moisture holding capacity of the waste either before or after closure.

24. At closure, each landfill unit shall receive a final cover consisting, at a minimum, of a two-foot thick foundation layer which may contain waste materials, overlain by a one-foot thick clay liner, and finally by a one-foot thick vegetative soil layer, or an engineered equivalent final cover approved by the Board pursuant to Subsections 2510(b) and (c) of Subchapter 15.

25. Vegetation shall be planted and maintained over each closed landfill unit. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetation layer thickness.

26. Closed landfill units shall be graded to at least a three-percent grade and maintained to prevent ponding.

27. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.

28. The closure of each waste management unit shall be under the direct supervision of the California registered civil engineer or certified engineering geologist.

29. Closed waste management units shall be provided with at least two permanent monuments installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period.

30. Water used for site maintenance shall be limited to the minimum amount necessary for dust control.

31. The concentrations of waste constituents or indicator parameters in waters passing through points of compliance shall not exceed the "Water Quality Protection Standards" established pursuant to Monitoring and Reporting Program No. 87-196, which is attached to this Order.

C. **Receiving Water Limitations** (Indirect discharge from drainage control and perimeter ditches):

1. The discharge shall not increase the turbidity of the receiving waters by more than 20 percent over background levels.

2. The discharge shall not cause bottom deposits in the receiving waters.

3. The discharge shall not cause esthetically undesirable discoloration of the receiving waters.

D. **Provisions:**

1. The Discharger shall maintain a copy of this Order at the site and make it available at all times to site operating personnel.

2. The Discharger shall notify this Board, in writing, of any proposed change in ownership or responsibility for construction or operation of the site. The Discharger shall also notify the Board of any material change or proposed change in the character, location, or volume of this waste discharge. For the purpose of these requirements this includes any proposed change in the boundaries, contours, or nature of the waste.

3. The Discharger shall comply with Monitoring and Reporting Program No. 87-196 , which is attached to this Order.

4. The Discharger shall maintain legible records of the volume and type of each waste discharge at each WMU and the manner and location of discharge. Such records shall be maintained at the site until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.

5. Within three months of the adoption of these requirements the Discharger shall submit to the Board and to the Department of Health Services for approval a report describing a periodic load-checking program to be implemented by the Discharger to ensure that 'hazardous wastes' and 'designated wastes' are not discharged to the Class III landfill unit(s) and to ensure that 'hazardous wastes' are not discharged to the Class II surface impoundment(s).

6. If the Discharger or the Board finds that there is a significant increase in indicator parameters or waste constituents over the water quality protection standards (established pursuant to Monitoring and Reporting Program No. 87-196) at the Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days. Within 90 days, the Discharger shall submit to the Board an amended Report of Waste Discharge for establishment of a verification monitoring program, per Section 2557 of Subchapter 15, which is designed to verify that water quality protection standards have been exceeded and to determine the horizontal and vertical extent of contamination.

7. If the Discharger, through a verification monitoring program, or if the Board verifies that water quality protection standards have been exceeded at or beyond Points of Compliance, the Discharger shall notify the Board or acknowledge the Board's finding in writing within seven days. Within 180 days, the Discharger shall submit to the Board an amended Report of Waste Discharge for establishment of a corrective action program, per Section 2558 of Subchapter 15, which is designed to achieve compliance with the water quality protection standards.

8. The Discharger shall notify the Board within 24 hours of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.

9. Within 90 days of the adoption of this Order the Discharger shall submit for approval a report describing the methods used to permanently close the 'designated waste' trench containing soil and cleanup materials contaminated with petroleum products. A post-closure maintenance plan shall be submitted as part of the closure report. At least two permanent monuments shall be installed by a licensed land surveyor or registered civil engineer from which the location and elevation of the waste trench can be determined.

10. Within 180 days of the adoption of these requirements, the Discharger shall submit to the Board for approval a closure and post-closure maintenance plan. This plan shall describe the methods and controls used to assure protection of the quality of surface and ground waters of this area during final operation and during any proposed subsequent use of the land. This plan shall include a revenue program to provide sufficient funding for closure and post-closure maintenance. This report shall be prepared by or under the supervision of a California registered civil engineer or certified engineering geologist, updated annually, and submitted to the Board by the 15th day of January of each year. The method used to close each WMU at the site and maintain protection of the quality of surface and ground waters shall comply with waste discharge requirements established by the Board and the most current version of the closure and post-closure maintenance plan which has been approved by the Board.

11. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor ground water, leachate from the landfill unit(s), and surface waters per Monitoring and Reporting Program No. 87-196 throughout the post-closure maintenance period.

12. The post-closure maintenance period shall continue until the Board determines that remaining wastes in all WMUs will not threaten water quality.

13. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated 1 September 1985, which are hereby incorporated into this Order.

14. The owner of the waste disposal site shall have the continuing responsibility to assure protection of usable waters from discharged wastes and gases and leachate generated by the discharged waste during the active life, closure, and post-closure maintenance period of the WMUs and during subsequent use of the property for other purposes.

15. The Discharger, to enable operating and inspection personnel to identify elevation 600 MSL, shall establish and maintain a sufficient number of clearly visible bench marks.

16. At least 60 days prior to construction of the new leachate surface impoundment and leachate collection system, the Discharger shall submit design specifications, construction plans, and a technical report which contains sufficient detail to demonstrate that specifications for the surface impoundment and leachate collection system will be obtained. The submitted material will be subject to approval by the Executive Officer prior to construction.

17. In the event of any change in ownership of this disposal site, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Board.

18. The Discharger shall comply with all applicable provisions of Subchapter 15 that are not specifically referred to in this Order.

19. The Board will review this Order periodically and will revise these requirements when necessary.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region on 23 October 1987.

William H. Crooks

WILLIAM H. CROOKS, Executive Officer

DCW:jdg 9/10/87

Attachment

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 87-196
FOR
ANDERSON SOLID WASTE, INC.
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
SHASTA COUNTY

SOLID WASTE MONITORING

The Discharger shall monitor all wastes discharged to the Class III landfill units and report to the Board as follows:

Parameter	Report in Units of	Sampling Frequency
Type and Quantity of Material Discharged (listed separately for each landfill unit)	Cubic Yards	Monthly
Minimum elevation of discharge	Feet (MSL)	Quarterly
Capacity of Landfill Unit Remaining	Percent	Yearly

SURFACE IMPOUNDMENT AND LEACHATE MONITORING

The following shall constitute the monitoring program for the leachate surface impoundment.

Parameter	Report in Units of	Sampling Frequency
Leachate Flow Rate	Gallons/Day	Daily
Surface Impoundment Freeboard	Feet and Tenths	Monthly
pH	pH Units	Monthly
Specific Conductance	umhos/cm	Monthly
Total Dissolved Solids	mg/l	Quarterly

SURFACE IMPOUNDMENT AND LEACHATE MONITORING (cont.)

Parameter	Report in Units of	Sampling Frequency
Chloride	mg/l	Quarterly
Chemical Oxygen Demand	mg/l	Quarterly
Tannins and Lignins	mg/l	Quarterly
Hydrogen Sulfide (gas)	presence of absence	Quarterly
Volatile Organics[1]	ug/l	Annually
Metals:		
Arsenic	mg/l or ug/l	Annually
Barium[2]	" " "	"
Cadmium[2]	" " "	"
Chromium (Total)[2]	" " "	"
Chromium (Hexavalent)	" " "	"
Copper[2]	" " "	"
Lead[2]	" " "	"
Magnesium[2]	" " "	"
Manganese[2]	" " "	"
Nickel[2]	" " "	"
Selenium	" " "	"
Thallium[2]	" " "	"
Vanadium[2]	" " "	"
Zinc[2]	" " "	"

[1]Environmental Protection (EPA) Methods 601 and 602 or Method 624 shall be used. All Peaks shall be reported.

[2]Inductively Coupled Argon Plasma Atomic Emission Spectroscopy (ICAP) may be used for analysis of these parameters. All metals shall be reported as total (except for Chromium).

SURFACE WATER MONITORING

Monitoring of the stormwater runoff from the retention/settling basin shall be conducted according to the following:

Parameter	Report in Units of	Sampling[1] Frequency
Turbidity	NTU	Daily
Settleable Solids	mg/l	Daily
pH	pH Units	Monthly
Specific Conductance	umhos/cm	Monthly
Total suspended Solids	ml/l	Monthly
Chlorides	mg/l	Monthly
Tannins and Lignins	mg/l	Monthly

[1]Samples shall be collected during the first storm of the rainy season producing a discharge from the retention basin and according to the sampling frequency hereafter during a significant storm event (1" or greater in 24 hours).

Receiving water samples shall be collected from the following station and analyzed for turbidity when turbidity samples are collected from the retention/settling basin discharge:

Station	Description
R-1	100 feet upstream from entrance of the west canyon.
R-2	200 feet feet downstream from discharge from main canyon.

DEEP GROUND WATER MONITORING

A detection monitoring program to determine both background and downgradient concentrations of indicator parameters and waste constituents shall be implemented for monitoring wells designated MW-1, MW-2, and MW-3 as shown on Attachment 'B'. The following chemical constituents will be used as indicator parameters and will be measured when sampling ground water.

Parameter	Report in Units of	Sampling Frequency
Ground Water Elevation	Feet and Tenths	Quarterly
pH	pH Units	Quarterly
Specific Conductance	umhos/cm	Quarterly
Total Dissolved Solids	mg/l	Quarterly
Chloride	mg/l	Quarterly
Nitrate	mg/l	Quarterly
Dissolved Iron	mg/l	Quarterly
COD	mg/l	Quarterly
Volatile Organics[1]	mg/l or ug/l	Yearly
Metals[1]	mg/l or ug/l	Yearly

[1]Volatile organics and metals as specified for leachate monitoring shall be sampled.

Quarterly samples from the first year of sampling (four years for metals) from the background monitoring well MW-1 shall be used by the Board to develop water quality protection standards for ground water at the site. Each time MW-1 is sampled, a minimum of four discrete samples shall be taken for analysis of each parameter to determine background water quality. If subsequent sampling of background monitoring wells indicates significant water quality changes due to either seasonal fluctuations or reasons unrelated to waste management activities at the site, the Discharger may request modification of these water quality protection standards.

SHALLOW GROUND WATER MONITORING

The shallow monitoring well in the canyon bottom designated as SM-1 on Attachment 'B' shall be sampled for the following constituents:

Parameter	Report in Units of	Sampling Frequency
pH	pH Units	Quarterly
Specific Conductance	umhos/cm	Quarterly
Chloride	mg/l	Quarterly
COD	mg/l	Quarterly
Tannins and Lignins	mg/l	Quarterly

The shallow observation wells designated as OB-4, OB-5, and OB-6 in the Report of Waste Discharge shall be checked quarterly for the presence of perched ground water. If ground water is present, analyses specified for SM-1 above shall be conducted.

REPORTING

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly the compliance with waste discharge requirements.

Monthly monitoring reports shall be submitted to the Regional Board by the 15th day of the following month.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, he shall include the results of such monitoring in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increase frequency shall be indicated on the Discharge Monitoring Report Form.

William H. Crooks

WILLIAM H. CROOKS, Executive Officer

23 October 1987
(Date)

DCW:jdg 9/10/87

Attachment

INFORMATION SHEET

ANDERSON SOLID WASTE, INC.
CLASS III LANDFILL
CLASS II SURFACE IMPOUNDMENTS
SHASTA COUNTY

Anderson Solid Waste, Inc. owns and operates a landfill 3 miles southeast of the City of Anderson in Shasta County, Section 31, T30N, R4W. The disposal site was opened in 1977 primarily as a wood waste disposal site for the lumber mills in the Anderson area. Waste discharge requirements (Board Order No. 77-229) specified a Class II-2 limited disposal site which prohibited household refuse. In 1980, the Discharger submitted a new Report of Waste Discharge to upgrade the site to a limited II-1 landfill to allow disposal of household refuse and limited quantities of Group 1 toxic wastes. Group 1 wastes disposed of at the site in a separate trench were limited by Board Order 80-076, to soil and cleanup material contaminated with petroleum products. These wastes would have been classified as 'Designated Waste' under the new Subchapter 15 regulations. The Discharger closed the 'Group 1' waste trench in 1986 and no longer accepts wastes contaminated with petroleum products.

The Discharger has requested waste discharge requirements for reclassification of the site as a Class III landfill and requirements for a Class II surface impoundment.

The Discharger proposes to operate two solid waste management units (WMUs) within the Class III landfill to segregate putrescible organic waste from wastes which could be considered 'Designated' under commingled landfill operations. Organic material disposed of at the site is primarily wood waste, yard trimmings, commercial refuse, and household refuse. Based on past and projected volumes, disposal of decomposable wastes is expected to average 170,000 cubic yard per year, with wood waste and yard trimmings amounting to 70 percent of the total. Decomposable waste will be discharged to WMU No. 1.

A separate WMU (No. 2) will be used for disposal of wood and incinerator ash, together with a solidified waste generated as a by-product of titanium dioxide (TiO_2) manufacturing at the E. I. Du Pont facility in Antioch. Analyses of ash has shown that these wastes do not pose a threat to water quality in the absence of acidic conditions. The ash itself has a high pH (greater than 10) and is not capable of generating acid leachate which could dissolve metals contained in the ash. The Du Pont waste is solidified using Portland Cement and is also not capable of producing acidic leachate because of the high pH. The Department of Health Services (DHS) has determined that the treated TiO_2 waste is non-hazardous and may be disposed of at a Class III landfill upon approval of the Regional Board. The volume of this waste is expected to be approximately 70,000 cubic yards per year. The volume of ash disposed of annually is about 22,000 cubic yards; however, this quantity is projected to increase to 60,000 cubic yards when the large Signal Energy System wood fired power plant, currently under construction, begins operation next year. Du Pont and dischargers disposing of ash are required to submit monthly analyses to ensure that wastes meet DHS and Regional Board levels for disposal at the site.

The Discharger is also proposing to dispose of friable asbestos in WMU No. 2. Asbestos fibers are immobile in soil and do not pose a threat to ground water quality. Regulations for disposal of asbestos in a landfill require immediate cover with a non-asbestos material to prevent air emissions. The Discharger has demonstrated that immediate daily covering of asbestos with either ash or solidified Du Pont waste prior to intermediate or final soil cover is an acceptable method of disposal. The volume of asbestos waste is expected to be approximately 40,000 cubic yards per year.

To date there has not been significant leachate generated at the site. The Discharger is modifying the existing leachate ponds prior to the 1987-88 winter season and is proposing to construct a new Class II surface impoundment and dentritic leachate collection system prior to the 1988-89 winter season. Because of the type of waste disposed of in WMU No. 2, generation of leachate is not anticipated. The wood waste and organic waste disposed of in WMU No. 1 has the potential for leachate generation.

Surface runoff from the site during storm periods has the potential for transporting sediment from exposed areas and perimeter ditches around the landfill. A retention basin is being constructed in the canyon bottom to settle stormwater runoff prior to discharge to an unnamed tributary to Cottonwood Creek.

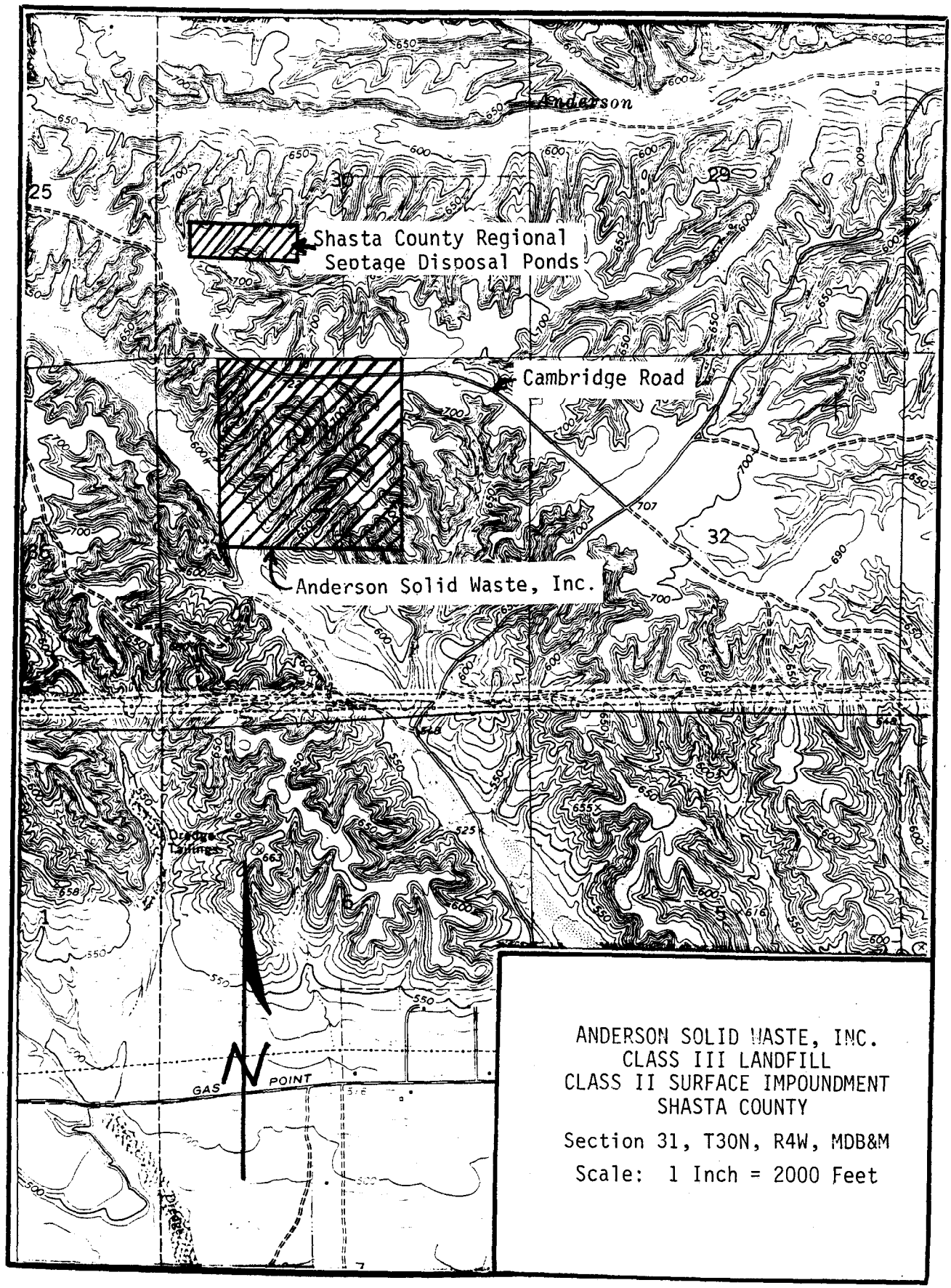
The topography of the site is characterized by a gently sloping plateau with a ridge top elevation of 720 feet MSL disected by drainages with a relief of about 150 feet to the canyon bottoms. Slopes in the canyon area vary between 30 and 50 percent. The requirements prohibit the placement of waste below elevation 600 MSL in the canyon.

Soils beneath the site consist of dense to very dense clayey sand and clayey gravels of the Red Bluff Formation with permeability values ranging from 10^{-5} to 10^{-7} cm/s indicating an impermeable strata. The Tehama Formation underlying the Red Bluff Formation is the principal water-bearing formation in the Redding Basin. Data from ground water monitoring wells installed in August indicates the regional ground water surface is between elevation 442 and 456 feet MSL, approximately 150 feet below the lowest elevation of waste placement. The general direction of ground water movement is towards the east-southeast.

Rainfall at the site averages 30 inches per year with over 90 percent of the precipitation occurring between October and May. Average annual evaporation at the site is approximately 70 inches.

DCW:jdg 9/10/87

ATTACHMENT 'A'



ATTACHMENT 'B'